To: Sylvia Hamilton via email Date: November 10, 2005

Subject: November 4, 2005 Meeting Minutes

A meeting of the Perchlorate Community Advisory Group was held at the San Martin Lions Club, 12415 Murphy Avenue, San Martin, on November 4, 2005 at 2 pm.

I. **Pledge**, the Chair, Ms. Sylvia Hamilton, led the pledge of allegiance to the American Flag.

II. **Administrative**

A. *Introductions*
B. *Attendee Sign-in sheet*
C. *Open Forum*
D. *Approve September 29th, 2005 meeting minutes*

Minutes were approved with one correction: Item III.B.1 – Second paragraph should be, "…testing results of 6 ppb or below…"

E. *2006 Meeting Dates*

The 2006 meeting dates were approved, with the addition of a meeting on December 8, 2006, at 2 pm.

III. **Presentations**

A. MACTEC (Olin Engineering & Consulting) – *Mike Taraszki*

1. *3rd Quarter 2005 Groundwater Monitoring Report*

a) Sampling results: 858 wells were sampled in the third quarter. 642 wells had results less than the Practical Quantification Limit (PQL) of 4 ppb. 34 wells had perchlorate concentrations above the 6 ug/L notification level. Seven wells have concentrations exceeding 10 ug/L, all of which are located within one and a half miles south of the site. The number of wells with concentrations above 6 ppb is down 80% from a year ago.

Q. How many wells have ever been sampled?
A. More than 1,500 wells have been sampled one or more times.

b) Concentration Trend Analysis – The Mann-Kendall statistical method of evaluating trends was applied to all wells with 4 or more samples. The results of the trend analysis, which included 168 wells, indicated that concentrations are predominantly stable or decreasing. Results included concentrations levels increasing at four wells, probably increasing at 2 wells,

stable in 83 wells, show no trend in at 41 wells, probably decreasing at 10 wells, and decreasing at 28 wells.

c) Conclusions: Concentrations are decreasing and most wells with concentrations greater than 10 ppb perchlorate or within 1-½ mile of the Tennant Avenue site.

2. *Northeast Groundwater Flow Assessment Update*

a) Groundwater elevations were measured in 33 depth discrete monitoring ports and 31 production wells and monitoring wells. MACTEC reports that groundwater elevations are consistent between multi-level wells and production wells. Interpreted groundwater flow directions for the Fall 2005 period of measurement are as follows: shallow aquifer has a southwest gradient, intermediate aquifer has a southeast gradient, and the deep aquifer varies with depth. The upper part of the deep zone appears to be influenced by pumping from the Tennant Avenue well. The middle and lower parts of the deep zone vary depending on the location relative to the site. North of the site, groundwater appears to be moving north. At the site, groundwater appears to be moving south. Bedrock may be controlling groundwater flow conditions. The monitoring wells show a response to pumping in the Nordstrom Park wells.

MACTEC explained that deep pumping wells depressurize the basin. The intermediate zone acts as a buffer for the depressurized deep zone. Groundwater recharge activities maintain water levels.

b) Perchlorate was not detected in 59 of the 60-groundwater samples obtained from multi-level monitoring ports in the new northeast monitoring wells and from private wells at or above the laboratory official reporting limit of 4 ug/L. Of the 60 samples, 33 are depth-discrete samples, 24 are from production wells, and 3 are from existing monitoring wells. One detection above four was found in the new monitoring well just east of the site in the upper intermediate aquifer. There are also estimated concentrations at 3 production wells and 2 depth discrete wells.

Analysis of naturally-occurring stable isotopes of water in the monitoring wells indicate the presence of recharged imported water.

c) Conclusion: MACTEC concludes that perchlorate from the site is not migrating north.

Q. Can groundwater move north?
A. Yes, based on pumping. Nevertheless, data indicates that water below the site is flowing to the southeast.

Q. Does that mean water never moved to the north?
A. The one year of well monitoring will provide data. There is the potential for groundwater to move in any direction, but the way recharge and pumping are set up, leads to a conclusion of southeast flow below the site.

Q. Since there were fewer recharge facilities in the 1970's, could that lead to northeast flow?
A. Potentially. Old maps only indicate transient northeast flow. Without the Madrone and Main Ave ponds, the aquifer would have been very stressed.

Q. Can reports be delivered in smaller pieces, so they are easier to download?
A. Yes, or a CD can be provided.

Q. Could the Executive Summary of reports be provided to the entire PCAG?
A. Will ask Olin.

Q. Could higher rainfall this year cause decreasing concentrations? Mr. Cerruti reported that his well was 5.6 ppb in April and 6.0 ppb in October.
A. Possibly, but rainfall could also cause higher concentrations if perchlorate becomes re-dissolved with increased water levels. Also, the difference in concentration in Mr. Cerruti's well is very small and could be just lab variation.

Q. What are the conclusions regarding the detections of perchlorate in the intermediate aquifer northeast of the site?
A. The concentrations are low and of no particular distribution, which indicates a background source of perchlorate.

Q. Have you sampled recharge ponds?
A. Sampled Madrone Channel in August 2005; result was nondetect for perchlorate with a detection limit of 2 ppb.

The City of Morgan Hill (Jim Ashcraft, Public Works Director) commented that there is still disagreement of northeast flow. Mr. Ashcraft went over the City's attached handout explaining their position. The City believes that the data shows there is a northeast flow, contrary to Olin's conclusions. There is perchlorate in the City's northeast wells. Historical data collected by the United States Geological Survey, dating back to 1916, show that there was northeast flow in the vicinity of the Olin facility. Olin's quarterly reports have documented a northwardly flow beneath their perchlorate facility. Olin's new report documents the presence of perchlorate in the groundwater

at "PZ1" located 1000 feet northeast of Olin's perchlorate facility and directly in line with the Nordstrom well. The level of perchlorate in that test well is 3.5 ppb, consistent with the levels of perchlorate found in the Nordstrom well. Olin's report acknowledges "hydraulic communication" between the groundwater under the Olin perchlorate facility and the City's northeast wells. The RWQCB has indicated that there is no evidence of any other source of perchlorate in the City's wells. Olin has asserted that there must be another source. However, despite considerable effort, Olin has not presented any evidence to support that assertion, nor to present any other responsible party before the RWQCB. There is abundant reasonable evidence of Olin's responsibility for the northeast contamination. The City will be requesting PCAG support for a RWQCB determination to include the northeast area in the Cleanup and Abatement Order.

B. RWQCB Update – David Athey

1. Alternative Water CAO

Because of the State Water Board's modification of the Order, Olin Corporation submitted a revised alternative water supply implementation work plan. The report is available on the Regional Water Board's website. PCAG and community members are well to submit comments to David Athey.

Olin requested to discontinue bottled water service to 78 bottled water customers whose well water is below 4 parts per billion perchlorate. Mr. Athey is bringing the request to his Board at the February 10, 2006 Regional Board meeting in Salinas.

There are two ways bottled water service can be discontinued. Regional Board staff can approve discontinuation if there are 4 consecutive quarters of results, collected after May 2005, with results less than 6 ppb. The Regional Board's Board members can approve discontinuation based on any 4 consecutive quarters of results.

Q. What about lab variations, the +/- 20% that is allowed?
A. The State Water Board concluded that was not a material issue.

2. *Cleanup CAO:* Olin resubmitted their Llagas Subbasin Characterization Work plan on October 24, 2005. The Regional Board is currently reviewing the plan and will be prepared to comment/respond soon. The southern well installations are proceeding on schedule; wells MW 26 and 35 have been installed. The first well testing results will be included in the January 2005 quarterly report.

CAO Due Dates –
X Monitoring well installation and characterization work plan – June 3, 2005
X Llagas characterization report – March 30, 2006

X Plume Migration Assessment Report – March 3, 2006
X Plume Migration, Control FS, Work Plan Implementation
X Llagas Cleanup Level Report – January 2006 and later

3. *Northeast Perchlorate:* Mr. Athey reported that Olin is set to sample northeast supply and monitoring wells. The Stipulated Stay of the 12/8 letter is extended, as the Santa Clara Valley Water District completes its forensic investigation.

4. *Onsite Groundwater Treatment:* Olin submitted an application to change the discharge location from discharge of treated groundwater from which perchlorate has been removed. Currently, discharge is to the Butterfield stormwater facility; Olin proposes to discharge to onsite injection wells located on the northern part of the site. Also, the Regional Board updated the Monitoring and Reporting Program to combine programs.

Q. Will the forensic study solve the Northeast issue?
A. Mr. Athey said maybe. Mayor Kennedy said that the study is taking focus off the fact that the Regional Board should name Olin a discharger for the northeast contamination. Tracy Hemmeter, Santa Clara Valley Water District, said that the study is designed to look at basinwide conditions, not resolve the northeast question.

C. *SCVWD Update*: The Water District is waiting for US filter to submit a revised testing protocol to Department of Health Services (DHS). Ms. Hamilton offered to contact the Olin Project Manager, Rick McClure, to see what can be done to move this forward. Mr. Craig O'Donnell also offered support if delay appears to be from the State. Also, Commissioner Van Wassenhove reported the County's Department of Environmental Health Director attended a conference and reported that NSF is interested in certifying ion exchange, too.

D. Document Summaries C Jerry Orlando, Technical Outreach Service to Communities

Work Plan for Engineering Feasibility Study of Water Supply Reliability Enhancement to Groundwater Recharge Optimization to Mitigate Perchlorate Impacts in the Llagas Groundwater Subbasin: Presently, the Santa Clara Valley Water District is not utilizing the Church Ponds to their full capacity as groundwater recharge reservoirs due to other ecological and regulatory concerns. It is believed that increased use of the ponds can improve water supply reliability and possibly help alleviate the effects of perchlorate contamination through the Llagas Groundwater Subbasin. The work plan is further explained in Mr. Orlando's summary, which is attached.

E. Work Plan for the Perchlorate Source and Background Study of the Llagas Groundwater Subbasin: The study will determine whether there is a background concentration of perchlorate in the subbasin. A background concentration of perchlorate will enable the District, the Regional Board and the responsible parties to make better decisions about cleanup and groundwater basin management. Also, the project will seek to find out if

new state-of-the-science techniques can distinguish between different sources of perchlorate. The work plan is further explained in Mr. Orlando's attached summary.

IV. Additional Topics

A. *Water District Federal Grants and Project Planning:* The process requires the formation of an expert panel to review the work plans. The panel is nearly in place and should meet before the end of the year.

B. *Perchlorate Working Group (PWG*): Ms. Hemmeter reported that PWG is working to make sure the objectives of the Cleanup CAO are being met. Recently, the PWG talked with Regional Board Executive Officer Roger Briggs about mutual interests in making sure the Cleanup CAO is implemented on time and in a manner than meets the objectives of the CAO. In addition, the group is also working on scheduling another meeting with elected officials.

C. Groundwater Guardian: Earlier this year the groundwater guardian team applied for affiliation that was officially granted in October 2005.

V. Next Meeting – Friday, December 9th, 2005 (2-4pm)

Suggested Agenda Items: Northeast Flow/Amendment to the CAO; treatment certification

Meeting was adjourned.

Minutes submitted by Zohra Karimi

Attachments

1. City of Morgan Hill Comments on "Northeast Flow" Issues
2. Technical Outreach Service to Communities Document Abstracts